**POLBA MAHAVIDYALAYA**

**DEPARTMENT OF BOTANY**

**COURSE WISE & SUBJECT WISE OUTCOME**

**UNDER CHOICE BASED CREDIT SYSTEM**

**SUBJECT: BOTANY (GENERAL)**

**SESSION : 2022-2023**

**COURSE OUTCOME**

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| Course | Outcome |
| Course:CC-IACourseTitle::Biodiversity | * Outcome of this course will be gathering knowledge of microbes,theeconomicimportanceofvariousmicrobes,theirtypesandclassificationofmicrobes.
* Studentswilllearnabouttheknowledgeofalgalflora,theirdiversity,occurrenceandeconomicimportance.
* Studentswilllearnaboutthehabitat,natureandevolutionarytrendamongthevascularandnon-vascularplants.
* Studentswillgatherknowledgeaboutthesuccessionofplants.
* Aftergoingthroughthecourse,theywilllearnabouttheknowledgeofeconomic,agricultural,ornamental,gardening,bioremediation of pollutants and medicinal aspects as well as bio-indicatoraspectoftheplantsunderthecourse.
* Students will gather knowledge about fungal diversity and able toidentifydifferenttypesoffungi,theirnatureandhabitat.
* Students will learn about economic and industrial importance of fungi-food,bakery,breweryandcheeseindustry.
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| Course:CC-IBCourseTitle:Plant EcologyandTaxonomy | * CourseoutcomeofCC-1Bwillunderstandtheroleofdifferentatmospheric and edaphic factors on plant growth and formation oftheirecosystems.
* They will learn about different types of plant ecosystems and theirdistributionthroughout theWorld.
* Studentswilllearnidentificationaswellasclassificationandnomenclatureofplants.
* Differentsystemsofclassificationandphylogenyofangiospermswill belearntbythem.
* Thisisthekeycoursethroughwhichstudentswilllearntoidentifyandclassifydifferenttypesofhigherplants.
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| Course:CC-ICCourseTitle:Plant AnatomyandEmbryology | * ThecoursePlantAnatomyandEmbryologydealwithinternalstructuresand variouscelltypesofdifferentpartsofhigherplants.
* Studentswillgatherthepracticalknowledgeaboutthedifferentinternalstructuresofhigherplantsandtheirdrawingskill.
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| Course:CC-IDCourse Title: D:PlantPhysiologyandMetabolism | * CourseoutcomeofCC-1Dwillunderstanddifferentkindsofphysiological processes like absorption and transpiration of waterand food, mineral nutrition, deficit symptoms and role of nutrientinplants.
* Rolesofplantgrowthregulators(PGR)intheirdifferentphysiological processes like growth, cell division, flowering, fruitripeningandabscissionwill belearnbythestudents.
* Students will learn concepts of metabolism including catabolic aswellasanabolicpathways,roleofenzymesinregulationofmetabolism.
* Entrapment of solar energy through carbon assimilation processandtheirmodificationindifferentclimaticconditionsBiochemicalprocessesofrespirationalongwiththeirregulations and mechanism of ATP synthesis within the cell will be learn by them.
* Nitrogen metabolism to maintain nitrogen cycle through leguminous and non-leguminous plants as well as physiology andbiochemistry of nitrogen fixation and signal transduction within cells will be learnt by the students.
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| Course: SEC1Course Title: Biofertilizer | * Students will learn about different types of bio-fertilizers, role of microbes as Biofertilizer and their uses.
* Students will also learn about the organic farming and recycling ofdifferent kinds of biodegradable wastes.
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| Course: SEC4Course Title: Mushroom cultivation | * Students will learn about the medicinal value of edible mushroom and mushroom culture technology.
* They will also know about the storage and nutritional value of mushroom.
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| Course: DSE – 1ACourse Title: :Economic Botany and Biotechnology | * Students will learn about the economic importance of various types of plants like cereals, legumes spices, beverage yielding plants, oil and rubber yielding plants, timber yielding plants and their cultivation.
* Students will learn techniques of plant tissue culture to improve the quality of plant as well as industry level production of crop within laboratory to fulfill food demand.
* Introduction of new qualities (pest resistant, herbicide resistant etc) in a transgenic crop to produce/include plant based vaccines, improvement of size, taste, texture, colour of different fruits torecombinant technology along with gene cloning and gene transfer methods.
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| Course: DSE – 1BCourse Title: Cell and Molecular Biology | * They will also learn the process of eukaryotic cell formation different kinds of enzymes involve in cellular process, hereditary unit i.e. DNA and RNA, processes of cell division, cellular dynamics and role of cell organelles.
* Students will learn historical perspective of nucleic acid as a unit and types of genetic carrier, their organization and function in cell.
* Formation of protein through RNA and their regulations also studied under this course.
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**PROGRAMME OUTCOME (PO)**

Our College is affiliated to The University of Burdwan (BU) and hence follows the sameCourse Programme offeredbyBUfrom time totime.It, therefore,adheres andstrivestowards achieving the goal as enumerated by BU through its programme outcome. These areasfollows—

**PO-1:CRITICALTHINKING**:Curricularmanagementisstrategicallyimplementedtocultivate precise understanding of the thematic concepts enabling the students for cognitiveattainment.Theprocessofcurricularmanagementismonitoredbyformalassessmentprocedure.Thus,aconsistentevaluationofcriticalthinkingabilityofthestudentsispursued.

**PO-2:ENVIRONMENTANDSUSTAINABILITY**:Afterthecompletionofgraduatedegree,studentswillbeabletodevelopenvironmentconsciousnessandstrivesforthedevelopmentoftheecosystemandworkstowardsattainingthegoalsofsustainabledevelopment.

**PO-3: SELF DIRECTED AND LIFE-LONG LEARNING**: The programmeendeavours todevelopskillforengagementinlife-longlearninginthebroadestcontextofsocialchanges.

**PO-4: ETHICS**: Recognize own value system and ability to deal along the path, acceptingresponsibilityforhis/heractionsandrectifythemasandwhennecessary.

**PO-5: EFFECTIVE COMMUNICATION**: Regular interface between teacher and studentsempowers the students to express their conceptual attainment through regular communicationsystembothconventionalandbeingITenabled.ProficiencyincommunicatingthroughEnglish is being emphasized upon in order to imparting interactive capacity to professionaldomain.Attainingcapacityinvernacularcommunicationisalsobeingemphasizedtoestablishsocialaccountabilityofstudentsas apreparatorycitizen.

**PO-6: SOCIAL INTERACTION**: Students will be able to develop social communication skillthroughinteractionwithdifferentpeergroupsandmediateddisagreement.

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**PROGRAMME SPECIFIC OUTCOME (PSO)**

* + SystematicandfundamentalunderstandingofBotanyasadiscipline
	+ SkillandrelateddevelopmentforacquiringspecializationinBotany
	+ Identifying Botany related problem, analyzing and application of data using appropriatemethodologies
	+ ApplyingknowledgeofBotanyandskilltosolvecomplexproblemswithdefinedsolution
	+ FindingopportunitytoapplyBotanyrelatedskillsforacquiringjobsandself-employment
	+ UnderstandingnewfrontiersofknowledgeinBotanyforprofessionaldevelopment
	+ Applying subject knowledge for solving societal problems related to application of thatsubjectinday today life
	+ Applyingsubjectknowledgeforsustainableenvironmentfriendlygreeninitiatives
	+ Students in Botany will have an exposure in various skills enhancement in different fields’viz. Mushroom cultivation, herbal drugs and medicinal plant, conservation and ecosystem,tissue culture. These will create new avenue ands and job opportunities for the students ofBotany